



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION EXAMINING OPERATIONS

Applicant: John R. Jamison Group Art Unit: 3641
Serial No.: 10/749,663 Examiner: Richardson, John A.
Filed : December 30, 2003 Attorney Docket No: 3194.0018
Title : ULTRA-SHORT-ACTION FIREARM FOR
HIGH-POWER FIREARM CARTRIDGE

DECLARATION UNDER 37 CFR 31.132

Chernoff Vilhauer McClung & Stenzel
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601 SW Second Avenue
Portland, Oregon 97204-3157

December 30, 2004

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

I, John R. Jamison, hereby declare that:

1. I am the inventor of the above-identified
application.

2. I have more than 30 years of professional
experience with respect to firearms and ammunition, including
extensive knowledge of their history, development, testing and
fabrication, in connection with my profession as a writer on the
topic of ammunition and firearms. Since 1969, hundreds of my
articles on ammunition have appeared in virtually every gun and

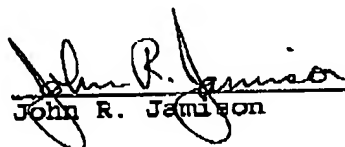
hunting publication in the United States, as well as publications in foreign countries. I have been on the staff of *Shooting Times Magazine* since 1979, and currently am the reloading/rifles editor of this publication. I have also served as technical editor of *Shooting Times* with responsibility for technical accuracy of the information supplied by other writers. Prior to working at *Shooting Times*, I was associate shooting editor at *Field and Stream* magazine. I was also associate editor at *Rifle and Handloader* magazines from 1973 to 1978, and was editor of the official publication of the *National Benchrest Shooters Association* during the same period. I have also served on the staff at *American Hunter* and *Petersen's Hunting*. I conduct research and development for firearms and ammunition makers, and developed load data for use by the Swift Bullet Company, involving hand-loading and firing tens of thousands of rounds in 44 different calibers and testing for chamber pressures, velocity and downrange performance. I have also been asked to conduct similar tests on propellants for the IMR Powder Company (formerly DuPont Powder Company, one of the oldest and largest in North America).

3. The .50-95 Winchester cartridge disclosed in Cartridges of the World is capable of safely withstanding internal gas pressures of no more than about 28,000 psi, as evidenced by the fact that it is a nineteenth century black

powder cartridge having a folded rather than solid head (base section), and having very low muzzle velocities in the range of 1500 feet per second. The attached pages 498-499 by Earl Naramore from Principles and Practice of Loading Ammunition, Small Arms Technical Publishing Company (1954) confirm the low-pressure range of such early cartridges and the fact that increased pressures required the abandonment of such folded head cartridges in favor of solid-head types, with a requirement of much thicker metal in the head and sidewalls.

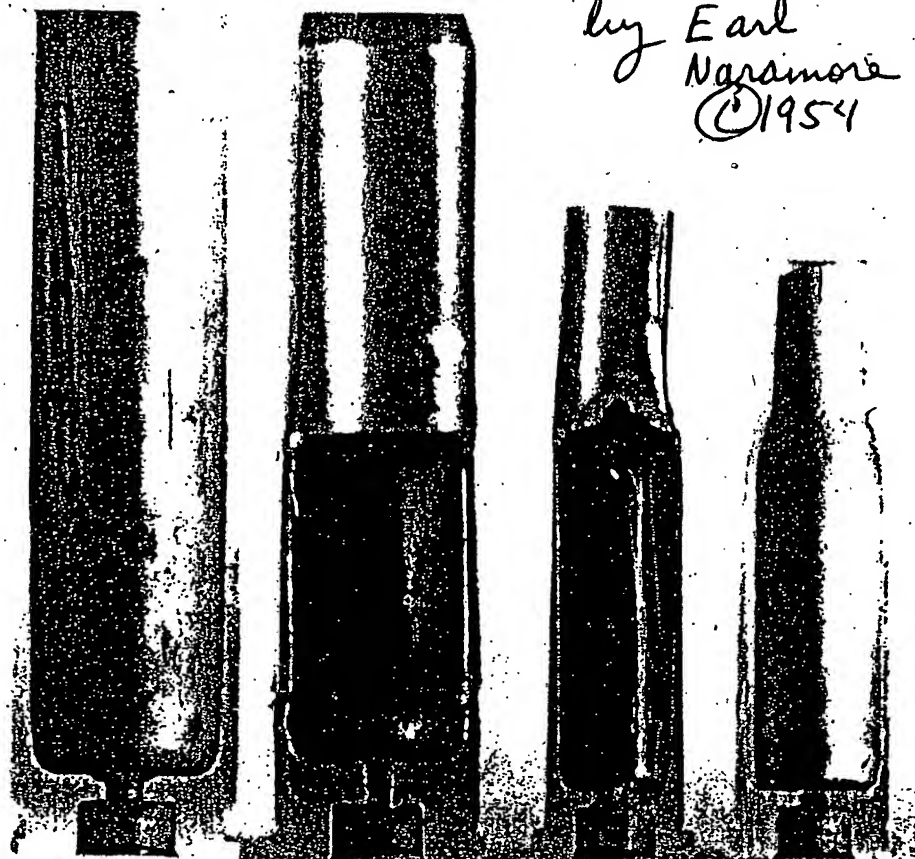
4. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

29 Dec 04
Date


John R. Jamison

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by Earl
Nagarsmore
©1954



The development of wildcat cartridges, of necessity, requires the use and alteration of some existing caliber of cartridge case. While this may serve for developmental purposes, the general use of such cases must be approached with caution. Increasing powder pressures involves changes in the grain structure as well as in the amount of metal put into the heads of cases; the fact that cartridges are surrounded by a supporting wall of steel notwithstanding.

The transition of black to smokeless powders, with pressures increased from around 28,000 p.s.i. to 35,000 p.s.i. required the abandonment of the old folded head cases in favor of the early solid head type. The latter pressure is dangerously close to the limitations of the present, so-called folded heads.

With pressures of from 38,000 to 50,000 p.s.i., completely solid heads are necessary. The .30-06 case head shown at the left, above, is characteristic of this type and is common to all military and sporting cartridges of high intensity.

The .220 Swift cartridge was developed out of cases with a similar head structure but the high velocity of this cartridge is only obtainable at the expense of powder pressures considerably above those considered safe in this type of case. In order to manufacture this cartridge and have it safe, a complete redesign of the cartridge case was necessary. Much more brass had to be put into the head; the side walls had to be thickened and the weakening effect of the deep extractor groove, typical of rimless cases, had to be eliminated. The marked dimensional

changes necessary in the head of the .220 case are shown in the second case above. The third and fourth heads shown are those of the .22 Hornet and the .25-20 Repeater cartridges, the latter being identical with that of the .218 Bee. These types are frequently modified to wildcats. The .22 Hornet has only about .060" of brass around its primer pocket and the .25-20 is only somewhat better in this respect.

The wildcat modifications usually consist of blowing these cases out to increase the powder capacity and then over-loading them to pressures around those developed in the .220 Swift in order to obtain appreciably higher velocities. These small cases, which are designed for average pressures of around 38,000 to 40,000

~~and put this in the form of the following hypothesis: That there is an ideal shape, capacity and caliber of cartridge for each and every powder.~~

Any controlled, procedural search for this will-o'-the-wisp would be too costly in money and time to even be considered—but this is what the experimenters with the wildcats are really looking for; that load of very high velocity, with normal pressure, that will burn powder so uniformly that all of the bullets will go through the same hole. Unfortunately, too many wildcatters are overly preoccupied with muzzle velocity and overload their ammunition in blissful ignorance of the relationship between high pressure and powder tolerance and bullet spin. The whole concern seems to be one of how fast the bullet can be driven without blowing up the gun, which is certainly a naive approach to cartridge development. It is not strange, therefore, that most, if not all of these cartridges show no commercial possibilities and few advantages when they are loaded according to sound practice. The word "improved" used in connection with some wildcats is often indicative of the reverse and such "improvements" in muzzle velocity or accuracy can be duplicated with standard cartridges, used in custom-built arms, made with the same individual care as the wildcats, or even with commercially-made arms. The development of a high degree of accuracy through fitting ammunition to a particular arm is one of the fundamental reasons for reloading. Substantial increases in velocities can be realized through overloading, a simple process requiring nothing more than a little extra powder and a certain amount of mental deficiency. Why then should one bother with the wildcats? I think there are two very good reasons why they may be preferred to standard commercial or military arms.

Wildcat rifles, all of them, have one thing that no commercial rifle has—no ammunition. The owner must not only reload his ammunition; he must practically make it and this can be a very interesting pursuit in itself. The second intriguing feature that the wildcats possess is their complete lack of standardization. There may be a few of the better gunsmiths who have spent considerable time and money on the master and working gages necessary to maintain reasonable uniformity in their own product and who ruthlessly scrap expensive tools to hold to this standard of accuracy. If so, there are many more who chamber ~~their rifles with nothing more than a headspace gage or even use~~

p.s.i., simply do not have enough metal in their heads for high pressure loads. Surely the veriest novice, by comparing these weak head structures with that of the .220, can see that this practice is unsound.

Such modifications are often given names that are qualified by the adjective, "improved," but the uninitiated shooter who would like a wildcat rifle is cautioned to look askance at most of these cartridges. Any cartridge that is loaded without consideration of its case structure can by no stretch of the imagination be considered an improvement on anything.